VIKTOR BUNYAKOVSKY

16 December [O.S. 4 December] 1804 – 12 December [O.S. 30 November] 1889

Viktor Bunyakovsky was born in Bar, Podillia Governorate, Russian Empire (today Ukraine) in 1804.

Bunyakovsky was a mathematician, noted for his work in theoretical mechanics and number theory (see: Bunyakovsky conjecture), and is credited with an early discovery of the Cauchy–Schwarz inequality, proving it for the infinite dimensional case in 1859, many years prior to Hermann Schwarz's works on the subject.

Bunyakovsky obtained his initial mathematical education at the home of his father's friend, Count Alexander Tormasov, in St. Petersburg. In 1820, he traveled with the count's son to a university in Coburg and subsequently to the Sorbonne in Paris to study mathematics. At the Sorbonne, Bunyakovsky had opportunity to attend lectures from Laplace and Poisson. He focused his study and research on mathematics and physics. In 1824, Bunyakovsky received his bachelor's degree from the Sorbonne. Continuing his research, he successfully completed his dissertation on theoretical physics, theoretical mechanics and mathematical physics, and obtained his doctorate under Cauchy's supervision.

Bunyakovsky's scientific work was done at the St. Petersburg Academy of Sciences, of which he was named adjunct in mathematics (1828), extraordinary academician (1830), and ordinary academician (1841). He was elected vice-president in 1864 and retained the post for twenty-five years.

Of Bunyakovsky's approximately 150 published works in mathematics and mechanics, a monograph on inequalities relating to integrals in finite intervals (1859) is particularly well known. In this work he first stated the important integral inequality named after him.

Rediscovered and published by Hermann Schwarz in 1884, it is now often known as the Schwarz inequal ity. Bunyakovsky produced many works on number theory and in particular solved a series of specific equations and gave a new proof for the law of quadratic reciprocity.

Some of Bunyakovsky's results were included in P. Bachmann's Niedere Zahlenthéorie, and about forty references to his original results appear in L.E. Dickson's Hisotory of the Theory of Numbers. His contributions to number theory include a work (1846) in which he gave an original exposition of this science and of its application to insurance and demography.

Bunyakovsky's works also deal with geometry. In 1853 he critically examined previous attempts to prove Euclid's fifth postulate concerning parallel lines and attempted a proof himself-unaware of the significance of Lobachevsky's non-Euclidean geometry. Active in disseminating mathematical knowledge in Russia. he also contributed substantially to the enrichment of Russian mathematical terminology.

Bunyakovsky' works on applied mechanics and hydrostatics are also of interest. To commemorate fifty years of his research and teaching. the St. Petersburg Academy in 1875 issued a medal and established a prize bearing his name for outstanding work in mathematics.

References

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